

Students' Perception of the Use of Learning Management System to Facilitate Flipped Learning Experience for English Language Teaching in Private Higher Education Institution in Oman: A Developmental Evaluation

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Abstract

Learning Management System (LMS) has become an integral part of education technology in every institution. Almost all the Higher Education Institutions (HEIs) are using LMS to facilitate their teaching and learning processes. The study aims to evaluate the effectiveness of LMS and the basic perception of students on the usage of LMS and various plugins to support their learning process not only to ensure its quality but also to evaluate different strategies for its future enhancement. Hence, this study adopts a developmental evaluation framework to assess students' satisfaction and perception of using the (LMS) in their experiential Flipped Learning (FL) of English language modules. The methodology follows the pragmatic paradigm based on Dewey's theory to allow for mixed-method instruments to be employed for a better understanding of the LMS, exploring its challenges and opportunities. This small-scale evaluative study involved a survey of 70 respondents and a focus group of ten students in a private HEI in Oman to explore their FL experience in English modules. The depiction of this experience represented positive responses emphasizing how FL technology-enhanced individualized/experiential learning reinforced in life-long learning skills suitable for career practice. Recommendations are offered for LMS to facilitate enhanced flipped teaching implementation, promoting a student-centered environment ideal for a broader approach of active learning in HEI contexts.

Keywords: Developmental evaluation, education technology, experiential learning, flipped learning, learning management system (LMS)

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Introduction

Higher Education Institutions (HEIs) are challenged to improve student-learning experiences demonstrating program effectiveness. Al-Zahrani (2015) asserts that enhancing student's engagement and active learning is a critical task for HEIs. Traditional classrooms are no longer effective in developing learner's capacity to apply knowledge in real life (Mazur, 2009). Thus, policymakers, scholars, and advocacy groups strive to enhance higher education quality using active methodologies to graduate students with life-long learning skills essential for the labor market (O'Flaherty & Phillips, 2015). Active learning is defined here as "the process of having students engage in some activity that forces them to reflect upon ideas and how they are using those ideas" (Michael, 2006, p.160). It is also known as the shift from lecture/didactic/route memorization 'surface learning' to constructive/analytic/critical 'deeper learning', i.e., the change from a teacher- to student-centered paradigm (Ritchhart, Church, & Morrison, 2011). This is in line with the new millennial learning preference, born as digital natives exposed to information technology (IT) from infancy. Furthermore, the use of technology positively affects student's ability to construct their knowledge, now considered a critical standard of learning (Roehl, Reddy, & Shannon, 2013; Poloju & Naidu, 2020). HEIs, internationally, have recognized the potential value of utilizing IT in pedagogical approaches and curricula, typically to promote student-centered education allowing students to become actively engaged in higher-order thinking (Kim, Kim, Khera, & Getman, 2014).

As one of the emerging pedagogical approaches, Flipped Learning has been increasingly utilized to foster the student-centered environment via technology (Strayer, 2012). Research do not indicate one definition of flipped learning, but rather multiples developed through custom practices. The American educators Bergmann and Sams (2012) developed the concept of 'flipping your classroom', viewing the pedagogy as a reversed traditional classroom approach in which lecturing and classroom activities followed by homework for a conventional teaching setting are changed (Reyna, 2015). In flipped classrooms, theoretical material is studied before the class individually (information transfer) and mostly asynchronously using technological tools such as Learning Management System (LMS) to watch and listen to lectures in self-study. This leaves classroom time to be devoted to problem-solving, researching, crafting, and creating (Stöher & Adawi, 2018), fulfilling a variety of practical tasks (information assimilation) that promote active learning (Hung, 2015; Sharma, Lau, Doherty, & Harbutt, 2015). FL's approach has been adapted to multiple disciplines such as Medicine, Engineering, English, and Business studies across HEIs internationally, proving able to strengthen learner's capacity in higher cognitive skills aligned to (Bloom's Taxonomy, 1956). That is by not only promoting individualized education but also promoting practical conceptual analysis combined with a fully participative classroom (Sage & Sele, 2015).

Latest technologies such as Machine Learning-based plugins on LMS could take up the teaching and learning experiences to the next level. With supervised machine learning plugged into the LMS such as Moodle, student's progress could be monitored, and proactive measures could be taken to enhance the learning experience apart from speeding up the tedious tasks. (Naidu, Singh, Farei, & Suqri, 2020).

The Rationale of this study

Given the burgeoning use of LMS for flipped learning in HEIs, there is a need for a comprehensive and more in-depth understanding of the opportunities and challenges the pedagogical technology might project towards instruction and its impact on students' lifelong learning English modules. Measuring the degree of students' learning satisfaction plays a vital role in evaluating the effectiveness of LMS in Flipped Learning (Wu, Tennyson, & Hsia, 2010). Thus, the primary objective of this study is to understand if the current practices in higher education in terms of technology implementation, is good enough for the flipped teaching approach. In consideration of the formation of questions for this study, a series of one-to-one meetings were conducted with the FL end users. These included both faculty and students in the private HEI understudy in Oman. Based on these meetings, common problems were identified to evaluate the potential use of LMS from students' perspectives on their flipped learning experience, becoming the core object of the evaluation.

Research questions:

1. What are the students' perceptions of the use of LMS to aid their Flipped Learning (FL)?
2. What are the benefits and challenges in the implementation of LMS for FL in the selected HEI?
3. How can the use of LMS be improved to facilitate FL implementation across the HEI?
- 4.

The following section will include a literature review, which will focus on crucial recent research to situate the study's context. Subsequently, the methodology section will outline the data collection instruments used and explain the analytical framework. In the data analysis section, the results will be informed, followed by a discussion of the main findings. The study will conclude with recommendations and suggestions for further research scoped in the areas of the active learning pedagogy researched.

Literature review***Evaluation approach***

Since the use of LMS is considered an innovative contemporary practice within the institution to facilitate flipped learning, as an evaluation approach that seeks to go beyond surface understanding in how LMS operates in a societal and dynamic environment is essential. Thus, Developmental Evaluation (DE) has been chosen as the study evaluation approach in its offering of a deeper level of analysis, known as double-loop learning (Patton, 2010), which can aid in the process of understanding the role of LMS in building students' learning skills and the stakeholders (work in progress) development of the practice. Despite the inherent limitations of the DE model, such as its lack of providing an evaluation for certainty (neither supports summative evaluation nor accountability), it does not measure merit, worth, and validity - there remain significant advantages in its utilization. It facilitates the development of scalable innovation for a dynamic and changing situation.

So, in clarification, utilizing DE allows the evaluator to ask, 'what is happening?' in real-time data/knowledge-gathering, to analyze the online instructional tools (Saunders, Sin, & Dempster, 2015). This is to inform continuous decisions about what to modify for further

adaptation and enhancement (Patton, 1994) within the redesign of the specialized materials, tools, and course content.

Flipped learning approach

A growing body of literature confirms a positive relationship between the FL approach and students' engagement. Many studies have proved that the flipped classroom provides a higher quality of learning by strengthening students' ability to construct their knowledge from research, individual lessons, and peer-peer interactions (Wong & Chu, 2014). In the generation of digital natives, implementing technology such as multimedia (LMS) to a flipped class can be beneficial and necessary to develop creativity and collaboration skills (Sharma & Naidu, 2020). Neto, Gomes, and Titton (2017) define the flipped classroom, incremented by technology, as an 'enhanced flipped classroom' fostering student ownership of learning by completing assigned pre-class work online can become more interactive in class. It is important to note that in FL, students can achieve knowledge for competency through training to find, analyze, and acquire. This transition from 'education for life' to 'lifelong learning' where a continuous self-motivated search for knowledge to 'learn how to learn' empowers their professional personality for future specialization (Bristol 2014; Fischer, 2000). Figure one demonstrates the components of Flipped Teaching and Learning:

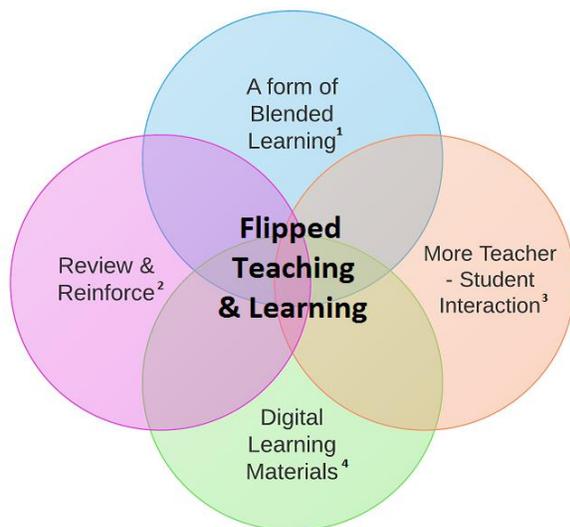


Figure 1. Flipped teaching and learning (Adapted from Meks, 2014)

Several studies from different international HEIs evaluated FL technology's impact on students' performance and perceptions in various disciplines, such as Nursing, Engineering, English, and Business Studies. Results concluded that flipped learners performed significantly better in projects and final examinations (Bristol, 2014; Brooke & Lister, 2016; Ilgu & Jahren, 2016; Ponikwer & Patel, 2018; Wozny, Balsler, & Ives, 2018). It is found by some researchers that some e-tools can provide a profound impact on the outcomes of the students, which were measured through student's feedback (Poloju & Naidu, 2020). Other research indicated that LMS and online sources improved students' performance to demonstrate profound knowledge and more conceptual

understanding, maintaining a positive attitude towards the FL model (Sharma & Naidu, 2020). The pedagogy aided with technology also enhanced students' task value and peer tutoring compared to traditional classes (Neto et al., 2017). However, some students demonstrated a negative attitude towards the use of LMS by stating that it is an extra pre-class workload (Kim et al., 2014). Bristol (2014) believes that such students are often unprepared for class, acting as a barrier to flipping the classroom. Other flipped learners complained about the lack of instructor's availability for reactionary and immediate feedback when reviewing the course content (Stöher & Adawi, 2018). Overall, however, there is conclusive evidence that the flipped approach reinforces the understanding of course content, increase self-study motivation among students, provides performance improvement, and contributes to building lifelong learning (O'Flaherty & Phillips, 2015). Flipped pedagogy can be an experiential/active approach to learning and emphasizing the functional role of the learner in constructing and reflecting their knowledge. According to Dewey's (1981) theory of experiential learning, "knowledge is a way of experiencing" (p.242), and thus, "education must be conceived as a continuous reconstruction of experience" (p.442). Hence, the use of LMS provides ample opportunities for students to explore, prepare, and shape their learning of the course content before class and develop their self-regulated strategies in education.

A flipped teaching approach involves collaborative efforts, and hence an appropriately designed framework is needed to accomplish this task. Students learning on collaborative platforms, especially in online mode, must ensure about other peers that everyone gets an equal opportunity to participate and contribute within a group (Al Kalbani, Naidu, Gupta, & Al Sawafi, 2020).

Methodology

Developmental evaluation can take any form of research methodology and design (Patton, 2010). This small-scale evaluation study adopted a mixed-method approach to investigate the impact of the educational pedagogy (LMS) on students' learning and satisfaction. The epistemological outlook of the survey follows pragmatism. According to Dewey's theory (1948), the paradigm opens doors to the use of multiple methods in social sciences to allow for systematic exploration of the inquiry creating theoretical and practical judgments (Johnson & Onwuegbuzie, 2004). The utilization of pluralistic approaches (qualitative and quantitative) enabled triangulating multiple data sources to provide an optimum understanding of the Research Questions (RQ's) proposed in the earlier section. In other words, the complementary data collection instruments helped to counteract the weaknesses of each method while showing the convergence of results (Yilmaz, 2013) to achieve the convergence validity and establish trustworthiness and consistency in the interpretation of results (Creswell, 2009).

Situating the study

The HEI under-study is one of the leading private higher educational institutions in the Sultanate of Oman, in Muscat, affiliated to three universities for bachelor and master's level programs. With over 5000 students spread around different academic departments including, IT, Business, and Engineering, the HEI seeks to promote active and student-led learning as the main Institutional Teaching and Learning Strategy (2015-2020), shifting classroom pedagogy from a teacher- to student-centered. Due to economic constraints on national funding, Flipped Learning (FL) was introduced as the optimal cost-effective approach to be practiced building a community

of learners with high order thinking skills relevant to professional competence (Bino, Rajalakshmi, & Ramaiah, 2017).

Classrooms were designed to be suitable for group and other collaborative exercises within FL. This adaptation relies on a web-delivered platform LMS (Moodle), a flexible tool to provide content online (Crews & Butterfield, 2014; Little, 2015). Class time is expected to be devoted to areas of application, analysis, synthesis, and evaluation. The instructor is asked to spend more time on modeling, discussing, solving problems, and correcting students apply concepts, making the learning interactive and inclusive (Sage & Sele, 2015).

Participants

The study was carried out among the participants in a well-reputed higher education institution, and the participants were selected based on their varying levels of knowledge: basic level, intermediate level, as well as, advanced level. This provided a right mix of responses from various perspectives.

The sample size of the satisfaction survey was constituted of 70 students studying English modules from multiple specializations such as Computing, Engineering, Business, and Management. They represented different academic semesters (see figure five and figure six), and the sampling was done based on Cronbach Alpha formula (see figure two).

Instruments and procedure

Instruments of data collection in this study includes a questionnaire and two focus group interviews. The questionnaire comprised (20) highly structured questions inviting responses to students' perspectives and satisfaction with the effectiveness of LMS in FL. It mainly consisted of (2) demographic questions, (14) Four-Point-Likert scale closed to queries, (3) multiple-choice questions, which were useful to generate frequencies of response amenable to statistical analysis (Cohen, Manion, & Morrison, 2007). There was also (1) open-ended question, which asked the learners to provide a depth of response on ways to improve the facilities of LMS in terms of enhancing their flipped learning.

During the analysis of the survey, the Likert scale items were assigned the numerical values, (1) for Strongly Disagree (SD) to (4) for Strongly Agree (SA). The core survey consistency reliability was calculated by using (Cronbach alpha) formula (figure two). Analysis of the quantitative data was statistically descriptive in which tabulated percentages, mean scores, and standard deviations are presented in graphical form in the next section.

$$\alpha = \frac{K}{K - 1} * \left(1 - \frac{\sum_{i=0}^K s_i^2}{s_t^2} \right)$$

Figure 2. Cronbach Alpha Formula (Dolinar, 2015)

For qualitative analysis, 10 of the 70 respondents who study English modules participated in focus group interviews to offer more detailed insight into issues forthcoming from the survey by providing comprehensive elicitation of their personal views, understanding, and experience

(Creswell & Creswell, 2017; Wilkinson, 1998) on the use of LMS. A focus group approach was chosen to depict authenticity, richness, and honesty of answers that were not captured in the questionnaire (Cohen et al., 2007) and to provide a high quality of data in a social context with reasonable speed (Patton, 2002).

The (10) students were divided into two groups (five participants in each group) to participate in the focus group interviews. The two sessions were conducted in a regular classroom and took an average of 30-60 minutes. The participants were encouraged to interact with each other freely and not merely responding to the moderator, so that range of complexities in beliefs and attitudes could emerge (Gorman, Clayton, Shep, & Clayton, 2005). Audio recordings were done of both focus group sessions. These were transcribed verbatim and manually coded to recurring themes/categories for a rich and detailed analysis (Braun & Clarke, 2006). To generate credible findings, the qualitative data were triangulated with the quantitative survey to identify several themes closely linked with the RQ's - which are discussed in the results and analysis sections.

Research ethics

The small-scale evaluation took place after adhering to the guidelines following the university's ethical procedures. Permission was granted from the concerned HEIs' Ethics Committee to conduct the study, and consent forms were distributed to all the participants involved in focus group sessions. The participants were also debriefed about the nature of the study and were assured of their anonymity and confidentiality. They were made aware of their right to withdraw at any point during the evaluation study.

Results and analysis

The Cronbach alpha of the survey was calculated, and the value was found to be 0.799, which indicated that the internal consistency of the survey is generally good (figure three).

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Figure 3. Interpretation scores for reliability (Tavakol & Dennick, 2011).

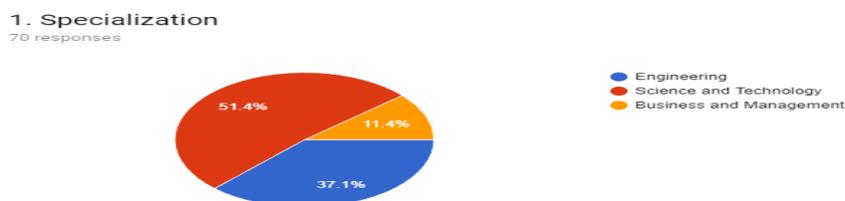


Figure 4. Number of respondents in each specialization

2. Semester:
70 responses

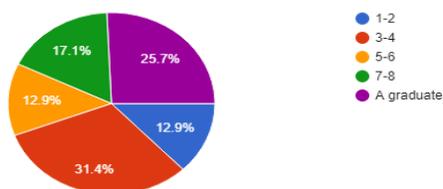


Figure 5. *Different semesters the respondents represented*

Figure four shows the total number of respondents from multiple disciplines, primarily 36 (51.4%) from Science and Technology, and 26 (37.1%) from Engineering. The least was eight (11.4%) from Business and Management. In figure six, the majority of respondents, 22 (31.4%), were in semester three and four, which was considered as their second academic year of study. 12 (17.1%) were in their final academic year, and 18 (25.7%) were graduates. The reason why the questionnaire also targeted graduates is that it was assumed that this is the group of learners who would have the most extended learning years of the flipped approach, therefore, the most decadent experience to reflect upon.

The quantitative and qualitative analysis of data yielded the following key themes of findings:

- i. Students' perception of the use of LMS for Flipped Learning (FL)
- ii. Evaluation of the effectiveness of LMS in FL
- iii. The challenges faced by the learners on the use of LMS
- iv. The ways of developing the facilities of LMS for the enhancement of FL implementation.

Students' perception of the use of LMS for flipped learning in English

One of the technology platforms widely used in an inverted classroom approach, especially for pre-class preparation, is the LMS, as mentioned earlier (Neto et al., 2017). Many flipped classroom studies document the type of online resources utilized within LMS, such as pre-recorded screencasts, podcasts, and captured videos, together with interactive videos from online sources of which YouTube is frequently used. In the present study, most of the respondents, 58 (82.9%) chose the option videos, audios, PowerPoint presentations, and 38 (54.3%) picked YouTube videos as the medium mostly utilized on LMS for their flipped learning. The use of interactive media, such as online quizzes and pre-reading texts, were chosen by 31 (44.3%) of students (see figure seven). The delivery of asynchronous instruction in the growing number of flipped classrooms offers the opportunity to create an e-learning environment in which students undertake their own autonomous learning in a self-directed, self-timed, and reflective means (O'Flaherty & Phillips, 2015). This has been captured in the focus group findings, where participants revealed positive attitudes towards the use of the LMS:

Moodle provides an introduction of the course content and an overview of the learning outcomes of the module. So basically, LMS gives us the most important things we need to know and prepare for our modules. [F]

Using LMS for flipped learning is very beneficial. I mainly rely on Module Information Guide (MIG) to guide me through the topics that I am going to study in detail and take notes on the important dates of the assessments plan. After that, it is just a series of videos and PowerPoint presentation slides uploaded by the teacher to enhance our learning experience in depth. [A]

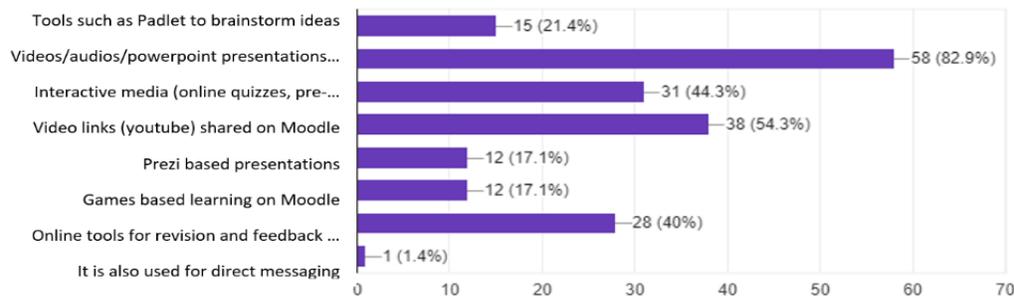


Figure 6. Students' response to the different online materials used mainly on LMS (Moodle)

From the evaluation study, 28 (40%) learners use other databases/applications available on campuses such as 'Socrative' and 'Kahoot' for revision and feedback, as well as, 15 (21.4%) who use tools such as 'Padlet' for notetaking (*see figure six*). One student further elaborated in the focus group interview how she expanded the use of online sources, saying:

I appreciate that LMS provides us with additional links to videos and books for those who are interested in digging deeper in content knowledge. I like to watch more videos and use the library to search for the book I want to read. [B]

To further evaluate the effectiveness and acceptability of the LMS in the flipped approach, a survey of several statements was created to measure students' satisfaction, interest, and the use of LMS. Its main findings are summarized in the next section.

Evaluation of the effectiveness of LMS in FL for English modules

The present small-scale evaluation study shows that 66 (94.3%) survey respondents agreed that LMS materials facilitating flipped learning were in line with the course content, and 50 (71.4%) agreed that the modality sufficiently covered the course learning outcomes. Moreover, 56 (80%) survey respondents agreed that viewing LMS materials such as the visual enhancements contributed to their understanding and learning of more profound content concepts, and 60 (85.7%) positively agreed that learning course content through LMS helped in improving their analytical and cognitive skills, including applying concepts, solving problems, and discussing ideas in class. The significant reoccurring comments from students regarding the effectiveness of the online modality were:

With the help of videos and readings on Moodle, it enhances my individualized learning and deepens my understanding of codes and concepts. It also develops my

critical/analytical skills through implementing the concepts were taught in my assignments. [B]

Self-learning is the best thing! I use LMS as my guide in personal study time to plan and organize when to watch the videos according to my learning needs. Then I go to class and participate cognitively well because I am already familiar with the content. [H]

Several qualitative comments were provided by the flipped learners to reflect on the experience of their flipped learning, appreciating that the innovative pedagogy has promoted in a more significant innovation in their learning approaches through empowerment, development, and engagement of content knowledge:

Lots of discussions are going on during class. We usually try to solve problems, discuss, and apply concepts to understand in greater depth. This helps us build our interpersonal skills, become better communicators, and build the critical thinking that will help us in our future career. [J]

The good thing about the videos is that I feel empowered and in control. I mean, I can pause, rewind, replay and review at my own time to make sure I have understood the content entirely. It is very efficient. [G]

Most respondents, 62 (88.6%), agreed that enhancement of class preparation through LMS increased their motivation and confidence in interaction during class, allowing for more peer/instructor feedback that can lead to an enhanced social learning experience and improved academic performance.

Another flexibility that LMS offers for FL are the availability of online lectures that can provide more opportunities for learners to plan and work ahead for content preview. LMS materials can also allow for content review that satisfies the range of learner revision styles. The various sources of social media outlets clipped on LMS allowed a total of 60 (85.7%) of respondents to engage in testing their knowledge of the subject matter through performing quizzes/exams, submitting assignments, and evaluating their peer's work. Focus group findings, perhaps unsurprisingly, corroborate students' belief that their best learning occurs through revision:

The good thing about LMS is that it replaces the teachers' availability; if the materials are available and accessible. I can review the things I need to concentrate on, as it helps me develop my self-study and makes me feel comfortable when I revise in my learning style. [I]

When you study independently with the help of online materials, you kind of understand your learning type and needs, you get to link your thoughts with the content available, and it all makes sense; I find this as a kind of reflective learning. [D]

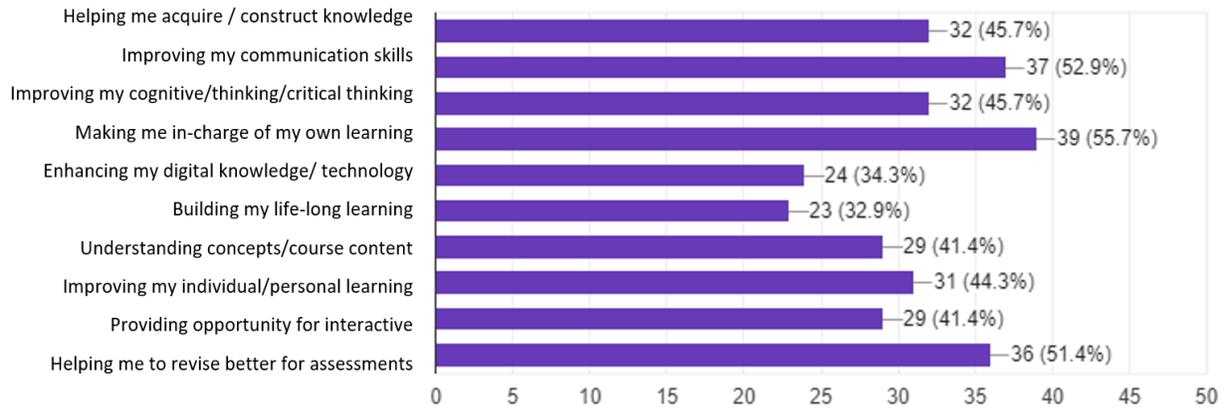


Figure 7. Summary of the highest-ranked benefits of LMS selected by the respondents

Overall, according to students' perception, they acknowledge that they have developed several learning skills from LMS. This included the ability to take charge of their learning as 39 (55.7%) respondents confirmed that flipped pedagogy democratized their dynamic learning environment in providing more significant opportunity to optimize learning. Further evaluation of the graph above suggests that flipped technology provided an enhanced opportunity to develop verbal communication skills and improved problem-solving performance; the two most highly ranked benefits were confirmed by 37 (52.9%) and 32 (45.7%) respondents. Finally, 36 (51.4%) believed that LMS fostered student-oriented study, found to be the best source for revision and assessment preparation:

LMS increases our productivity in learning. It allows us to have our education on the go. It is convenient for revision, especially if I missed classes, the resources are always available, which has made a positive impact on me. [A]

Most students 65 (92.8%) view the utilization of LMS as a positive experience for their flipped learning and would happily recommend the pedagogy to other HEIs in Oman. Nevertheless, they also expressed awareness of some challenges they faced with LMS, which may have negatively affected their flipped learning experience to some extent. The next section discusses the main issues regarding the use of LMS in flipped learning.

The Challenges faced by the learners on the use of LMS

One of the significant challenges students reported is the low quality of online materials, precisely, videos uploaded. Although they facilitated content comprehension, memorization, and retention, 30 (42.9%) respondents complained about their quality and audibility.

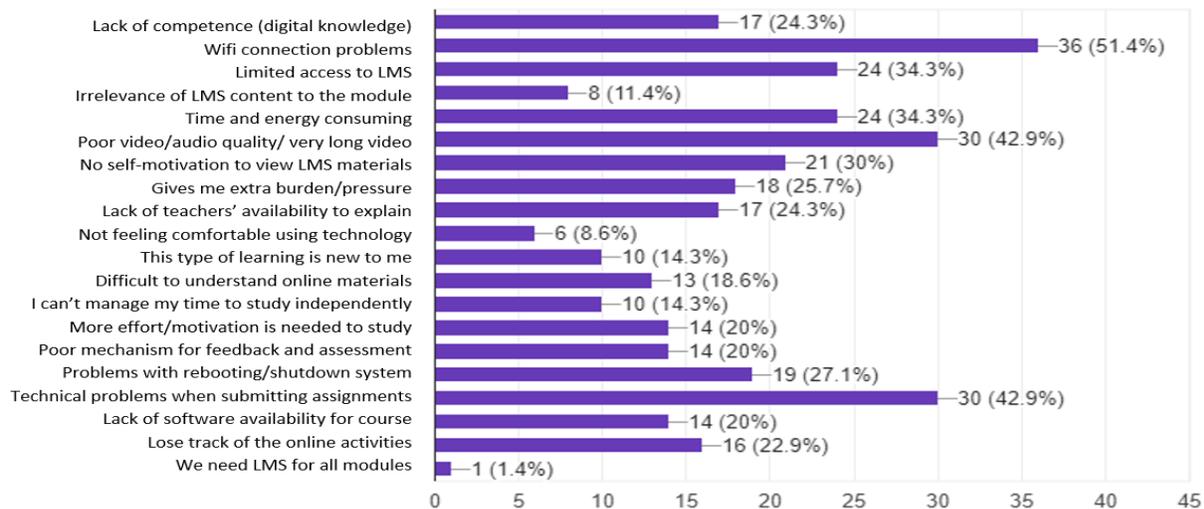


Figure 8. Summary of students' responses to the challenges they face, with the use of LMS for their flipped learning

This issue has been reported worldwide, with many students complaining about online resources not being firmly integrated with class activities. In other words, the online and in-class exercises are not sufficiently tailored to prepare students for the later in-class activities (Kim et al., 2014; O'Flaherty & Philips, 2015). From the current study's results, this represents a larger problem in self-directed learning. The effect of disjointedness between online and face-to-face activities can demotivate students from completing their assigned tasks in-class preparation. As such, the importance of technology alignment with flipped learning goals cannot be stressed more. Learning how to integrate technology meaningfully into pedagogy is more important than mere technology use. The current study's result reveals that having fewer students engaging in pre-class activities that lack interactivity and coherence can result in variable student preparedness leading to a lack of pedagogical integrity. Recurring comments from focus group findings reported that:

Some of the videos were not easy to understand. They were too long, strongly accented, and irrelevant to the content. The teachers should guide us to watch the specific sound quality of videos, which are meaningful and can help us with our studies [G]

Sometimes we are in a time crunch, and having to go for a long hour video is tedious to just get a tiny bit of information; this is such a waste of time, not to mention that some of the videos have low quality, you can't hear clearly, the audio is terrible. [J]

Another limitation of the innovative approach is that learners could not seek clarification of the videos or other online materials as they watched alone. 17 (24.3%) complained about the lack of instructor's availability while preparing for class sessions, and 14 (20%) considered LMS as a poor mechanism for feedback. The negative comments summarized below highlighted the loss of real-time interaction and feedback with lecturers:

Sometimes we need clarification on what we are watching for preparation or immediate feedback for exam revision. Still, when we email the teacher, there is no response, causing a delay in communication. [C]

Technical problems such as poor Wi-Fi connection and Internet access were reported by 36 (51.4%) of learners as main challenges on the use of LMS. The analysis revealed these technical challenges faced by the learners:

We have a lot of cases where Moodle shuts down or is under repair. It gets stuck frequently when we want to submit our assignments via Turnitin, which could be massive files incapacity. It also shuts down during practical exams. [H]

During the preparation of exams, LMS locks down and blocks the users from accessing online materials; this hampers our preparation for exams since everything is taken away from Moodle near examination dates. [J]

To ensure better implementation of the institutional policy practice, the concerns discussed above must be addressed by the HEI under-study to enhance the smoothness of the FL transition. Thus, the next section will propose ways to strengthen the development of the LMS facilities for better-flipped learning enactment in the HEI.

Discussion - LMS for enhanced FL implementation for English modules

Several suggestions emanate from the qualitative findings to improve the LMS features, aiding the flipped pedagogy. First, e-learning tools must provide more than just the opportunity for students to access resources based on their needs. It should also provide online materials, which are engaging, interactive, resourceful, and meaningfully connected with face-to-face activities (Bristol, 2014). Students from the focus group suggested having short, interactive videos, and games, strongly related to in-class discussions fulfilling the learning goals (Al Kalbani et al., 2020). Besides, Hamdan et al. (2013) declare that consistent reflection and additional clarification of the modules can alleviate the lack of connection in a flipped class and help develop a professional relationship between the student and the instructor.

Secondly, motivating students to regulate their learning behavior without rewards (grades, prizes) or punishment (failure) can be challenging. Abeysekera and Dawson (2014) believe that incentivizing students through quizzes or research entry questions is a useful mechanism to increase motivation to complete the assigned preparation before class and to assess understanding. In other words, online activities should be part of the students' grades as a motivational factor. In Moodle, there are many plugins and add-ons, such as Digital Certificate and Digital Badge, which could help this task (Sharma & Naidu, 2020). Moreover, since instructors are aware that flipped teaching is a fundamental change in learning methodology and resource management, precisely what is required of students in their self-directed learning, warrants explicit instruction. This is so that the learners' conceptions of FL are initiated and periodically reinforced sufficiently to allow them to form a clear image of the amount of effort they need to put in (Roehl et al., 2013). However, since students complained about workload burden, pre-class activities should be carefully planned according to the convenience of the students' study time and space. There is no conclusive prescription on the amount of the assigned pre-work from previous literature; however,

studies suggested that it depends on the individual social and contextual factors (Stöher & Adawi, 2018; Tang et al., 2017).

Lastly, technical issues in the online activities that created discomfort and frustration to students learning experiences should be reduced to a minimum if not eliminated (Ilgu & Jahren, 2016). Learners also suggested accessing online materials in off-campus mode, by providing offline access to all documents needed for learning purposes. Further comments from the focus group recommended mobile-friendly applications, allowing teachers and students to have easy, fast, and constant access to the materials.

Conclusion

This study has explored students' perceptions of the effectiveness of using LMS to support their flipped learning experience. Thus, a developmental evaluation framework has been employed to address all three questions stated in the introduction section.

It was found that an overwhelming consensus exists among the students that the use of LMS provided excellent opportunities to enhance their learning experience in different disciplines and the development of life-long learning skills relevant to the labor market. Students were incredibly contented with the flexibility afforded in, for instance, the ability to access learning materials in their own time, which meant that they could assume responsibility for their learning and engage with learning activities at their own pace.

LMS was found to offer excellent opportunities to facilitate student learning and substantial pedagogical benefits for the English language learning process. Students recognized FL benefits and suggested that teachers should continue its use, ensuring upgraded learning materials. Also, the importance of ensuring effective communication between teachers and students to clarify using the learning materials became apparent.

As noted earlier, this study is small in scale and evaluative since it is guided by a developmental evaluation framework. The use of a mixed methodology helped to generate comprehensive data to address the research questions and has acted to advocate the usefulness of this pragmatic approach in future work. Though the findings cannot be generalized widely; it provides a basis for further studies to explore the issues raised in more detail and larger scale enough to influence policy formulation. Thus, the current evaluative study opens doors to future research endeavors on this innovative approach and beyond.

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